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ABSTRACT

A critical analysis is presented of the literature as it relates to survey research, including personal interviews, telephone interviews, and mail questionnaires. Additional research concerns are explored, and a code of ethics for survey researchers is presented. Focus groups, interviews, long interviews, telephone interviews, and mail surveys are considered; and the advantages and drawbacks of each are noted. Other research concerns which have an impact on survey research include sources of error, the nature of bias, and response rates. The code of ethics for survey research emphasizes that subjects should volunteer their participation, and the researcher should assure that no harm comes to them as a result of participation. Participants, who should be assured of anonymity and confidentiality if these are guaranteed, should know the purpose of the study and who the sponsors are. Respondents should be able to contact the researcher. Analysis and reporting should provide an honest accounting of the procedures, and unexpected findings should be acknowledged. "A Guide for Survey Research," a summary of advantages and disadvantages, is included. A chart summarizes comparisons of mail, face-to-face, and telephone surveys. (SLD)

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A Critical Analysis of Interview, Telephone, and Mail Survey Designs

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A Critical Analysis of Interview, Telephone, and Mail Survey Designs

Survey research is one of the more popular methodologies for dissertation projects. Survey designs have been described as "conversations with a purpose." Surveys require individuals to communicate with one another either in person, by telephone, or by written report (Bradburn and Sudman,1988). Both quantitative and qualitative research projects can incorporate survey research as a part of the methodology. This paper will present a critical analysis of current literature as it relates to personal interviews, telephone interviews, and mail questionnaires. Additional research concerns such as Source of Error, Bias, and Response Rate will also be addressed. The paper will conclude with a code of ethics for survey researchers.

Interview Designs

Focus Groups

Focus groups can be useful in the beginning stages of a research project. The format allows the researcher to explore issues or problems with a small group of individuals. Researchers can generate questions or assumptions based on the informant's insights, evaluate different research populations, plan an interview schedule, and develop the questions for the survey

(Morgan,1988). Recently, one of my doctoral students used a focus group comprised of community college administrators to help her prioritize the issues to be addressed in her interviews. Her focus group was a small component of the larger research design which involved indepth interviews and a detailed questionnaire with the leaders of the community college system throughout the state. The use of focus groups linked to survey research is highly recommended.

There are several advantages for using focus groups. It is a socially oriented research approach with an opportunity for people to interact with each other. In addition, it allows the researcher to probe issues, it has a high face validity, and is relatively low in cost (Krueger, 1988). On the limitations side, the interviewer has less control over the group as compared with an individual interview, data can be difficult to analyze out of context, the group can vary, and the interviewer should have some training (Kreuger, 1988). This technique has promise for assisting with survey research designs.

Interviews

Personal interviewing is the standard by which survey research gained credibility (Backstrom and Hursh-Cesar, 1981, p 19). The personal interview is an interactive process between the researcher and the individual. There is a constant level of communication with a quality and quantity of information being exchanged. The flow of information will depend on interviewer, respondent, topic and situation. The communication process can become distorted or

biased at any time during the interview process (Warwick and Lininger, 1975). There are several important considerations in selecting interviews as the research method. Utilization of the interview questionnaire will increase the chances of the subject participating in the study. A suggested minimal response rate for interviews is 75 %. The discussion mode increases the respondent's motivation for complete and accurate answers and allows the researcher to use more complex questions. It follows the researcher can also sequence the questions, clarify answers and have a longer questionnaire (Warwick and Lininger, 1975).

Babbie (1990) states that a properly designed interview will have an 80 to 85% completion rate. In addition to the completion rate, the advantage of an interviewer is a decrease in the number of "don't knows" and "no answers." The interviewer can make sure that the question is clearly understood and continue to probe for answers. Of note, is that the interviewer can observe the respondents and see their reactions to the questions.

Some of the disadvantage cited by Backstrom and Hursh-Cesar (1981) are interviewer biases, availability of the respondent, and high cost. This method is the most expensive in terms of cost and time. Yet, it can be a valuable resource for certain designs. A doctoral student wanted to chronicle the desegregation issue in the Denver Public Schools over a period of eighteen years. There was a great deal of historical information on the topic. As she worked on her methodology, she decided to add an interview component to her design. Over the course of a year, she interviewed seventy-

five individuals who were involved in leadership roles in the school district and community. The interviews were conducted in person, if possible, or by telephone if the respondent had moved. She reported complete cooperation from the respondents and they added a richness to her dissertation that was not possible with just written documents.

The Long Interview

Many qualitative research designs include a lengthy interview process. With a limited number of subjects in the study, the researcher needs to have a longer questionnaire and a longer period of time. The questionnaire has several important functions. First, it ensures that the investigator covers all the terrain in the same order for each of the respondents. Secondly, the researcher needs to have some distance from the respondents through certain questions or prompts. Lastly, the questionnaire provides the scope and course for the researcher (McCracken,1988). An example of a qualitative research design with a long interview process took place during a study trip. The researcher was the educational leader for a group of ten teachers on a two month trip to Egypt. The trip was financed by a grant written by the researcher. She decided to do her doctoral research by observing the group, recording detailed field notes, and conducting long interviews over an extended period of time. She wanted to explore the effectiveness of the program. Each participant in the project agreed to incorporate the cultural experience into their social studies curriculum during the following year. Most of the teachers

developed curriculum for dissemination, but there were a few participants who never used the experience in their classroom or completed the tasks associated with the project.

Telephone Interviews

Telephone interviews are growing in usage. Backstrom and Hursh-Cesar (1981) suggested that telephoning is best for dealing with issues that influence or effect the general population, gives the researcher unlimited geographical access, and presents no physical risks to interviewers. As a research methodology, it is less expensive than personal interviews and provides greater accessibility to respondents in large cities. New computer technology has made it easier to use this as a research method. In comparison to personal interviews, there are several limitations. It is more difficult to establish rapport with the respondents over the telephone. There is no eye contact or body language to give the interviewer cues. The telephone interview tends to be shorter in length and the respondent could hang up at any time, thus ending the interview (Warwick and Lininger,1975).

This method has become extremely popular for conducting polls and surveys. The Gallup Poll is an example of the telephone survey method used to compile the public's attitude regarding education. In September, the Kappan published the annual survey. Some of the topics addressed this year are "Biggest Problems Facing Local Public Schools," "Distribution of Condoms By Schools," and "Grading the Public Schools." 9% of the grades were A, 31% were B, and 33%

were C. The authors noted that 40% of the respondents said the local schools were A's and B's, but only 18% gave the national schools the same grade.

Mail Surveys

The questionnaire is the physical representation of all the theories, hypotheses, and hunches explored by the researcher. The problem with the design is to create a set of questions and statements simple enough for the respondents to answer, but complex enough to develop a high quality research project (Backstrom and Hursh-Cesar, 1981).

The primary use of mail questionnaires is to conduct large surveys of the general population where there is little risk of making a bad decision with the data. This method is also useful for working with well-defined populations and special interest groups. The researcher can gather extensive written data and demographic information. It is free of interviewer bias and poses no threat to the respondents. The main disadvantage is the traditional low return rate and the early returns are more biased, than the later responses (Backstrom and Hursh-Cesar,1981). One of the more extensive survey research projects was conducted by a doctoral student from Taiwan. First, she traced the Gross National Product of the Republic of China to see trends in employment over a period of ten years. Next she developed a survey questionnaire for a group of employers and a parallel form for employees in a wide range of occupations. The purpose of the

research was to revise the commercial education curriculum for the two year college system. The research design addressed current trends, educational experiences of the research population, and recommendations for commercial educational skills needed for the future.

A researcher must address the issues related to the reliability and validity of the literature used to generate the questions (Fowler,1988). In teaching survey research to doctoral students, we stress the importance of original sources, a through review of the literature, and a comprehensive analysis of prior research studies on the same topic. For survey research designs, we require Chapters 1, 2 and 3 to be completed before the survey is written.

Another consideration which needs to be addressed is the variation in quality among surveys. Many researchers lack funding for their studies and therefore, many do not have an adequate staff to assist with the project. There could also be a lack of knowledge about the methodological procedures. By not following high quality procedures, the researcher could affect the results of the study. The quality of the data will be no better than the most error prone feature of the survey design (Fowler, 1988).

Research Concerns

Sources of Errors

Fowler and Mangione (1990) describe a survey as a series of steps that together form a measurement process. The researcher

needs to consider every aspect of the survey process for errors. The following table highlights some of the errors:

A. The samples are a source of errors:

1. When the sampling frame does not include everyone in the population to be described, thereby leaving out some types of people out of the sample;

2. Because there is some probability that by chance alone a sample will not perfectly reflect the population from which it is drawn; and

3. When those selected to be in the sample do not provide answers either by refusing to participate altogether or by selectively refusing to provide answers to specific questions.

B. Questions are sources of errors:

1. When they are misunderstood;

2. When they require information that the respondents do not have or cannot recall accurately; and

3. When the respondents are not willing to answer accurately.

C. Interviewers are a source of error:

1. When they do not read the questions as worded;

2. When they probe directively;

3. When they bias answers by the way they relate to the respondents; and

4. When the record answers incorrectly.

D. Data reduction is a source of error:

1. When coders inconsistently apply coding rules or use faulty judgement about the appropriate codes to apply; and

2. When data are entered incorrectly into computer-usable files. (Fowler and Mangione, 1990, p 14)

Nature of Bias

The nature of bias will differ with personal interviews, telephone interviews, or mail questionnaires (Fowler, 1988). The personal interview is the most effective means of presenting the research. Yet, issues of availability and accessibility become a problem for the interviewer. Rural areas have a higher accessibility factor than cities. More telephone interviews are being utilized in the cities because of greater access to secure areas and calls can be scheduled at the respondents' convenience. The elderly and less educated individuals are less responsive to telephone contacts.

In mail surveys, bias can be studied by comparing the early responders to those who responded later in the study. Fowler (1988) notes that the first 20% to 30% usually look different than the larger sample. The more educated individual will respond sooner than a less educated person. The best advice was to achieve a high response rate.

Response Rate

The response rate is largely under the control of the researcher (Fowler,1988). The question that arises next is: What is an adequate response rate? Babbie (1990) states that a response rate of 50% is generally considered adequate for analysis and

reporting. A response rate of 60% is considered good and 70% or higher is in the very good category. These are only guidelines and do not have any statistical basis. Backstrom and Hursh-Cesar (1981) gives a broader range for the response rates. They note that the Census Bureau expects a 99% return rate, but other forms of mail surveys will vary from 10% for the general population to as high as 80% for a well motivated group.

Several studies have suggestions for increasing the response rate. A review of empirical studies by Kanuk and Berenson (1975) showed that follow-up letters and monetary incentives were the best techniques for increased response rates. Baumgartner and Haberlein (1984) found that salience had a powerful effect on the response rate. They also found that follow-up contacts by the researcher, incentives in the form of small amounts of money, a personal letter accompanying the questionnaire and the use of first class postage were helpful. Survey instruments sent via certified mail increased the response rate in the study conducted by Colton, Kane, Estes, and Elfoft (1990). A return rate of 96% was reported by Altschuld and Lower (1984) in a study which looked at principals' and teachers' perceptions and attitudes about the evaluation of teaching. They stated that the high return rate was due to careful planning of the survey process, support of the superintendent in each district, and the high degree of interest in the topic.

Nonresponse is a possible source of error in the survey process. Nonresponse is not always biased, but it can be. Many

refusals to complete mail questionnaires is biased towards education and interest. Telephone nonresponse is related to age and education (Fowler, 1988). The researcher should contact the nonrespondents to find out why they refused to participate in the study and include this information in the report.

A Code of Ethics

An analysis of the literature on personal interviews, telephone interviews, and mail questionnaires would be incomplete without addressing a code of ethics. This is a set of norms for the researcher to use as a guideline during the research process. In survey research, the subjects should volunteer their participation in the study. The researcher must assure that no harm comes to the respondent as a result of participation in the study. Most respondents prefer anonymity and confidentiality. The researcher should state this as part of the information shared with the respondents in the instructions or cover letter. The participants in the research project should know the purpose of the study and who are the sponsors. The respondents should be able to contact the researcher. The analysis and reporting must provide an honest accounting of the procedures. Sometimes findings are unexpected in survey research, and these need to be acknowledged. Ethical concerns should be addressed as an important part of survey research (Babbie,1990).

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A

Guide for

Survey Research

Compiled by

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Major Issues in Selecting a Strategy

Sampling

Type of Population

Question Form

Question Content

Response Rate

Costs

Availability of Facilities

Length of Data Collection

A Summary of the Advantages and Disadvantages of Survey Research

Potential advantages of personal interviewing:

1. There are some sample designs that can be implemented best by personal interview (e.g., area probability samples).
2. Personal interview procedures are probably the most effective way of enlisting cooperation for most populations.
3. Advantages of interviewer administration - answering respondent questions, probing for adequate answers, accurately following complex instructions or sequences - are realized.
4. Multimethod data collection - including observations, visual cues, and self-administered sections - are feasible.
5. Rapport and confidence building are possible (including any written reassurances that may be needed for reporting very sensitive material).
6. Probably longer interviews can be done in person.

Potential disadvantages of personal interviewing:

1. It is likely to be more costly than the alternatives.
2. A trained staff of interviewers that is geographically near the sample is needed.
3. Total data collection period is likely to be longer than telephone procedures.
4. Some samples (those in high-rise buildings or high-crime areas, elites, employees, students) may be more accessible by some other mode.

Potential advantages of telephone interviewing:

1. Lower costs (compare personal interviews.)
2. Random-digit dialing sampling of general populations.
3. Access to certain populations (compare especially personal interview).
4. Potential for short data collection period.
5. The advantages of interviewer administration (compare mail).
6. Interviewer staffing and management easier (compare personal interviews) - smaller staff needed, need not be near sample, supervision and quality control potentially better.
7. Likely better response rate from a list sample (compare mail only).

Potential disadvantages of telephone studies:

1. Sampling limitations, especially problem of omitting those without telephones.
2. Nonresponse associated with RDD sampling (compare personal).
3. Questionnaire or measurement constraints, including limits on response alternatives, impossibility of visual aids, and interviewer observations.
4. Possibly less appropriate for personal or sensitive questions if no prior contact.

Potential advantages of self-administered (compare interviewer-administered) data collections:

1. Ease of presenting questions requiring visual aids (compare telephone).
2. Asking questions with long or complex response categories.
3. Asking batteries of similar questions.
4. The fact that the respondent does not have to share answers with an interviewer.

Potential disadvantages of self-administration:

1. Especially careful questionnaire design is needed.
2. Open questions usually are not useful.
3. Good reading and writing skills by respondents are needed.
4. The interviewer is not present to exercise quality control with respect to answering all questions, meeting question objectives, or the quality of answers provided.

Self-administered surveys can be done by mail, via group administration, or in households. Each approach has strengths and potential weaknesses.

The advantages of group administration:

1. Generally high cooperation rates.
2. The chance to explain the study and answer questions about questionnaire (compare mail).
3. Generally low cost.

The main disadvantage is that only a small number of surveys can use samples that can be gotten together in a group.

The advantages of mail procedures:

1. Relatively low cost.
2. Can be accomplished with minimal staff and facilities.
3. Provides access to widely dispersed samples and samples that are difficult to reach by telephone or in person for other reasons.
4. Respondents have time to give thoughtful answers, to look up records, or consult with others.

Disadvantages of mail procedures:

1. Ineffectiveness of mail as way of enlisting cooperation (depending on group to be studied).
2. Various disadvantages of not having interviewer involved in data collections.
3. Need for good mailing addresses for sample.

Dropping off (and later picking up) a questionnaire at a household has advantages:

1. The interviewer can explain the study, answer questions, and designate a household respondent (compare mail).
2. Response rates tend to be like those to personal interview studies.
3. There is opportunity to give thoughtful answers, consult records or other family members (compare personal or telephone).

The disadvantages include the following:

1. This procedure costs about as much as personal interview.
2. A field staff is required (albeit perhaps a less thoroughly trained one than would be needed for personal interviews).

From: Fowler, F. J. Jr. (1988). Survey Research Methods. Newbury Park, CA: Sage Publications.

Comparison of Mail, Face to Face, and Telephone Survey Methods

Factor		Mail	Face to Face	Telephone
1.	Cost	1	4	2
2.	Personnel requirements: interviewers	N/A	4	3
3.	Personnel requirements: supervisors	2	3	4
4.	Implementation time	4	4	1
5.	Sample coverate	3	1	1
6.	Response rate-general public	4	2	2
7.	Refusal rate	Unknown	3	3
8.	Noncontact/nonaccessibility	2	3	2
9.	Ability to obtain response from an elite	4	1	2
10.	Respondent within household	4	2	2
11.	Interviewer control	N/A	3	1
12.	Socially desirable response	1	4	3
13.	Item nonresponse	3	2	3
14.	Length of questionnaire-impact or response	3	1	2
15.	Confidentiality	4	4	4
16.	Ability to ask sensitive questions	2	1	2
17.	Ability to probe	4	1	2
18.	Ability to clarify	4	1	2
19.	Ask complex questions	3	1	3
20.	Use of open-ended questions	4	1	1
21.	Use of visual aids	2	1	4
22.	Avoid opportunity for consultation by respondent with others	4	1	1

Key: 1 = Major advantage
2 = Minor advantage
3 = Minor disadvantage
4 = Major disadvantage

From: Frey, J. H. (1983). Survey Research by Telephone. Beverly Hills, CA: Sage Publications.